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MEDIUM-MU TWIN TRIODE

9-PIN MINIATURE TYPE

For "on-off" control applications involving
long periods of operation under cutoff conditions**GENERAL DATA****Electrical:**

Heater, Pure Tungsten, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage	12.6 $\pm$ 10%	6.3 $\pm$ 10%	ac or dc volts
Current	0.15	0.3	amp

Microphonism. Not Tested

Direct Interelectrode Capacitances (Approx.):^o

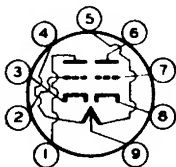
	Unit No. 1	Unit No. 2	
Grid to plate	1.5	1.5	μ f
Grid to cathode and heater. .	1.9	1.9	μ f
Plate to cathode and heater .	0.5	0.35	μ f
Grid of unit No.1 to grid of unit No.2	0.1 max.		μ f

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	67.5	volts
Grid Voltage.	0	volts
Amplification Factor.	21	
Plate Resistance (Approx.).	6600	ohms
Transconductance.	3200	μ mhos
Plate Current	8.5	ma

Mechanical:

Mounting Position	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-5/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" $\pm$ 3/32"
Maximum Diameter.	7/8"
Dimensional Outline	See General Section
Bulb.	T-6-1/2
Base.	Small-Button Noval 9-Pin (JETEC No. E9-1)
Basing Designation for BOTTOM VIEW.	9A

Pin 1 - Plate of
Unit No. 2Pin 2 - Grid of
Unit No. 2Pin 3 - Cathode of
Unit No. 2Pins 4 & 9 - Heater of
Unit No. 2Pins 5 & 9 - Heater of
Unit No. 1Pin 6 - Plate of
Unit No. 1Pin 7 - Grid of
Unit No. 1Pin 8 - Cathode of
Unit No. 1Pin 9 - Heater
Mid-Tap^o without external shield.

← Indicates a change.

SEPT. 1, 1955

TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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MEDIUM-MU TWIN TRIODE

FREQUENCY DIVIDER IN COMPUTER SERVICE and "ON-OFF" CONTROL SERVICE

Values are for Each Unit

Maximum Ratings, Absolute Values:

PLATE VOLTAGE.	250 max.	volts
GRID VOLTAGE:		
Negative bias value.	100 max.	volts
Positive bias value.	0 max.	volts
Peak negative value.	200 max.	volts
PLATE DISSIPATION.	2.5 max.	watts
GRID INPUT.	0.5 max.	watt
CATHODE CURRENT:		
Peak.	100 max.	ma
DC.	20 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	90 max.	volts
Heater positive with respect to cathode.	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	120 max.	°C

Typical Operation as Frequency Halfer:

	<i>Cutoff Condition</i>	<i>Zero-Bias Condition</i>	
Plate-Supply Voltage	150	150	volts
Grid Voltage	-15	0	volts
Plate-Circuit Resistance	20000	20000	ohms
Grid-Circuit Resistance.	47000	47000	ohms
Plate Current.	0	5.1	ma

Maximum Circuit Values:

Grid-Circuit Resistance:	
For fixed-bias operation	0.5 max. megohm
For cathode-bias operation	1.0 max. megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	<i>Note</i>	<i>Min.</i>	<i>Max.</i>	
<i>Cutoff Condition</i>				
Plate Current.	1	-	50	μamp
Difference in Plate Current Between Units.	-	-	50	μamp
<i>Zero-Bias Condition</i>				
Plate Current.	2	4.6	5.4	ma
Difference in Plate Current Between Units.	-	-	0.8	ma

Note 1: For conditions with 12.6 volts on heater, plate-supply volts = 150, grid-supply volts = -15, plate-circuit resistance (ohms) = 20000, and grid-circuit resistance (ohms) = 47000.

Note 2: Conditions are same as for Note 1 except that grid-supply volts = 0.

→ Indicates a change.

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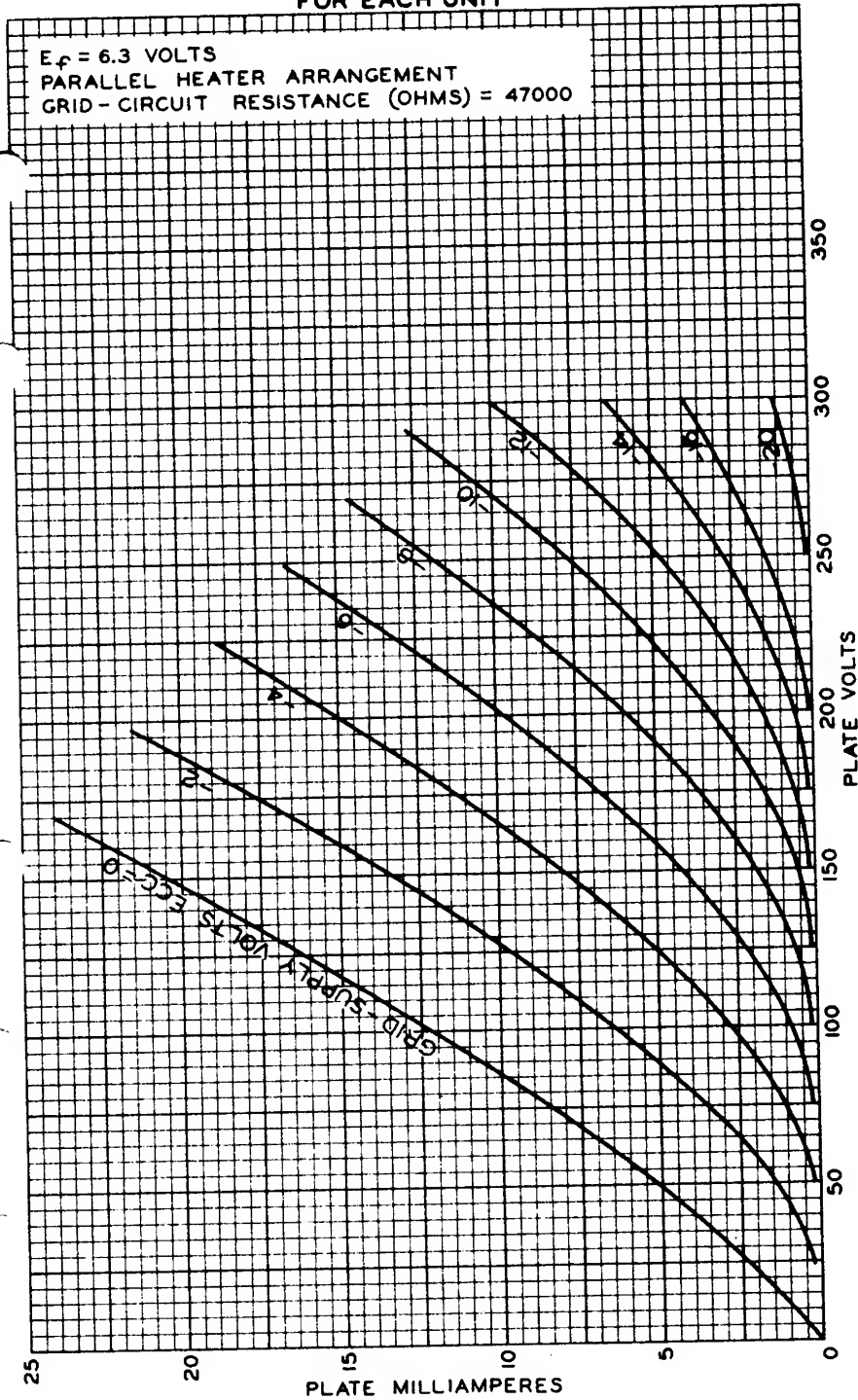
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AVERAGE OPERATION CHARACTERISTICS FOR EACH UNIT



MAY 19, 1950

TUBE DEPARTMENT

92CM-7493

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